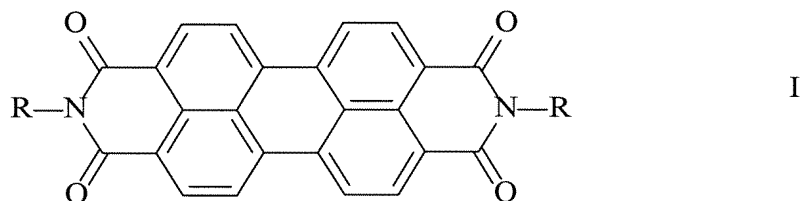


IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently amended): A process for preparing perylene-3,4,9,10-tetracarboxylic diimides of the general formula I



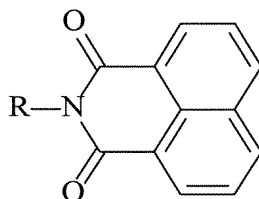
~~where~~ wherein

- R is C<sub>1</sub>-C<sub>30</sub>-alkyl whose carbon chain may be interrupted by one or more -O- moieties and/or which may be substituted by one or more substituents selected from the group consisting of C<sub>5</sub>-C<sub>8</sub>-cycloalkyl (which may be substituted by one or more C<sub>1</sub>-C<sub>6</sub>-alkyl substituents), phenyl or phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl (which may each be substituted by one or more C<sub>1</sub>-C<sub>18</sub>-alkyl and/or C<sub>1</sub>-C<sub>6</sub>-alkoxy substituents), -OCOR<sup>1</sup>, -N(R<sup>1</sup>)<sub>2</sub>, -SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>N(R<sup>1</sup>)<sub>2</sub>, -CON(R<sup>1</sup>)<sub>2</sub> and -COOR<sup>1</sup>;
- C<sub>5</sub>-C<sub>8</sub>-cycloalkyl whose carbon skeleton may be interrupted by one or more moieties selected from the group consisting of -O-, -S- and -NR<sup>2</sup>- and/or which may be substituted by one or more C<sub>1</sub>-C<sub>6</sub>-alkyl substituents;
- phenyl, phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, naphthyl or hetaryl, which may each be substituted by one or more substituents selected from the group consisting of C<sub>1</sub>-C<sub>18</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, phenylazo, naphthylazo, pyridylazo, pyrimidylazo, cyano, -N(R<sup>1</sup>)<sub>2</sub>, -CON(R<sup>1</sup>)<sub>2</sub> and -COOR<sup>1</sup>;
- R<sup>1</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>5</sub>-C<sub>8</sub>-cycloalkyl, phenyl or phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl;

$R^2$  is  $C_1$ - $C_6$ -alkyl, phenyl or phenyl- $C_1$ - $C_6$ -alkyl,

comprising:

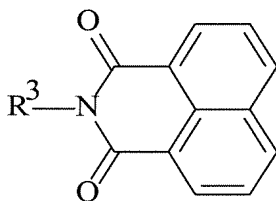
by dimerizing a naphthalene-1,8-dicarboximide of the formula II



II

~~which comprises effecting said dimerizing~~ in a substantially homogeneous reaction medium consisting essentially of an apolar aprotic organic solvent and an alkali metal base and subsequently reoxidizing the resulting alkali metal salt of the leuco form of the perylene-3,4:9,10-tetracarboxylic diimide in the presence of a polar solvent.

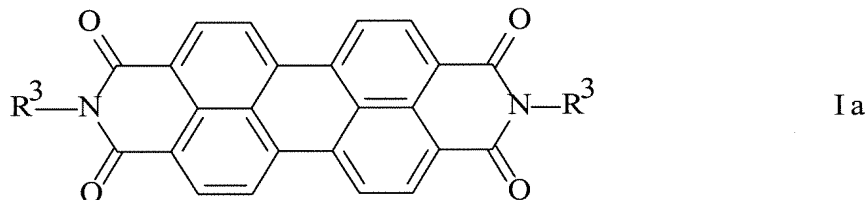
Claim 2 (Withdrawn): A process for preparing perylene-3,4:9,10-tetracarboxylic dianhydride, which comprises dimerizing a naphthalene-1,8-dicarboximide of the formula IIa



IIa

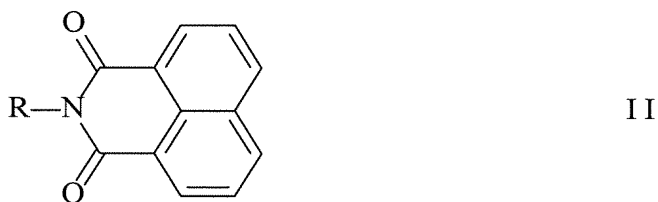
where  $R^3$  is cyclohexyl or phenyl which may each be substituted by up to three  $C_1$ - $C_4$ -alkyl radicals, in a substantially homogeneous reaction medium consisting essentially of an apolar aprotic organic solvent and an alkali metal base and effecting the

subsequent reoxidation of the resulting alkali metal salt of the leuco form of the perylene-3,4:9,10-tetracarboxylic diimide of the formula Ia



in the presence of an inert organic solvent, of an alkali metal base and of water to hydrolyze the diimide to the tetraalkali metal salt of perylene-3,4:9,10-tetracarboxylic acid and finally subjecting this to the action of an aqueous inorganic acid to convert it into perylene-3,4:9,10-tetracarboxylic dianhydride.

Claim 3 (Withdrawn): A process for preparing naphthalene-1,8-dicarboximides of the general formula II



where

R is C<sub>1</sub>-C<sub>30</sub>-alkyl whose carbon chain may be interrupted by one or more -O- moieties and/or which may be substituted by one or more substituents selected

from the group consisting of C<sub>5</sub>-C<sub>8</sub>-cycloalkyl (which may be substituted by one or more C<sub>1</sub>-C<sub>6</sub>-alkyl substituents), phenyl or phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl (which may each be substituted by one or more C<sub>1</sub>-C<sub>18</sub>-alkyl and/or C<sub>1</sub>-C<sub>6</sub>-alkoxy substituents), -OCOR<sup>1</sup>, -N(R<sup>1</sup>)<sub>2</sub>, -SO<sub>2</sub>NH<sub>2</sub>, -SO<sub>2</sub>N(R<sup>1</sup>)<sub>2</sub>, -CON(R<sup>1</sup>)<sub>2</sub> and -COOR<sup>1</sup>;

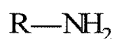
C<sub>5</sub>-C<sub>8</sub>-cycloalkyl whose carbon scaffold may be interrupted by one or more moieties selected from the group consisting of -O-, -S- and -NR<sup>2</sup>- and/or which may be substituted by one or more C<sub>1</sub>-C<sub>6</sub>-alkyl substituents;

phenyl, phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, naphthyl or hetaryl, which may each be substituted by one or more substituents selected from the group consisting of C<sub>1</sub>-C<sub>18</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, phenylazo, naphthylazo, pyridylazo, pyrimidylazo, cyano, -N(R<sup>1</sup>)<sub>2</sub>, -CON(R<sup>1</sup>)<sub>2</sub> and -COOR<sup>1</sup>;

R<sup>1</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>5</sub>-C<sub>8</sub>-cycloalkyl, phenyl or phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl;

R<sup>2</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl, phenyl or phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl,

by reacting naphthalene-1,8-dicarboxylic anhydride with a primary amine of the general formula III

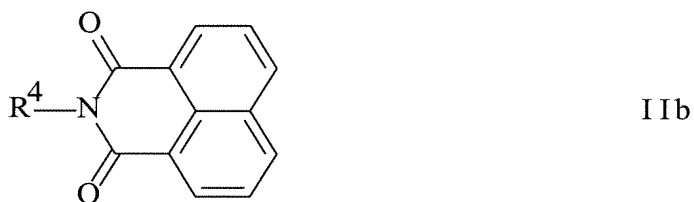


III

which comprises effecting said reacting in the presence of a polar aprotic organic solvent and also of an organic or inorganic acid or of an acidic transition metal salt catalyst or in the presence of phenol.

Claim 4 (Withdrawn): A process as claimed in claim 3, wherein the reaction mixture (after the naphthalene-1,8-dicarboximide II and its hydrolysis products have been removed) is subjected to an extraction or an azeotropic distillation under atmospheric pressure to recover the organic solvent together with unconverted amine for further reactions.

Claim 5 (Withdrawn): Naphthalene-1,8-dicarboximides of the general formula IIb



where:

$R^4$  is  $C_1$ - $C_{30}$ -alkyl which is substituted by one or more substituents selected from the group consisting of  $C_5$ - $C_8$ -cycloalkyl (which may be substituted by one or more  $C_1$ - $C_6$ -alkyl substituents), phenyl or phenyl- $C_1$ - $C_6$ -alkyl (which may each be substituted by one or more  $C_1$ - $C_{18}$ -alkyl and/or  $C_1$ - $C_6$ -alkoxy substituents), -

$\text{OCOR}^1$ ,  $-\text{SO}_2\text{NH}_2$ ,  $-\text{SO}_2\text{N}(\text{R}^1)_2$ ,  $-\text{CON}(\text{R}^1)_2$  and  $-\text{COOR}^1$  and whose carbon chain may be interrupted by one or more  $-\text{O}-$  moieties;

$\text{C}_5\text{-C}_8\text{-cycloalkyl}$  whose carbon skeleton is interrupted by one or more moieties selected from the group consisting of  $-\text{O}-$ ,  $-\text{S}-$  and  $-\text{NR}^2-$  and/or is substituted by one or more  $\text{C}_1\text{-C}_6\text{-alkyl}$  substituents;

phenyl or phenyl- $\text{C}_1\text{-C}_6\text{-alkyl}$  which are each substituted by one or more substituents selected from the group consisting of  $\text{C}_1\text{-C}_{18}\text{-alkyl}$ ,  $\text{C}_1\text{-C}_6\text{-alkoxy}$ , phenylazo, naphthylazo, pyridylazo, pyrimidylazo, cyano,  $-\text{CON}(\text{R}^1)_2$  and  $-\text{COOR}^1$ ;

naphthyl, 2- or 3-pyrryl, 2-, 3- or 4-pyridyl, 2-, 4- or 5-pyrimidyl, 3-, 4- or 5-pyrazolyl, 6-quinaldyl, 3, 5-, 6- or 8-quinolinyl, 2-benzoxazolyl, 5-benzothiadiazolyl, or 1- or 5-isoquinolyl which may each be substituted by one or more substituents selected from the group consisting of  $\text{C}_1\text{-C}_{18}\text{-alkyl}$ ,  $\text{C}_1\text{-C}_6\text{-alkoxy}$ , phenylazo, naphthylazo, pyridylazo, pyrimidylazo, cyano,  $-\text{CON}(\text{R}^1)_2$  and  $-\text{COOR}^1$ ;

$\text{R}^1$  is  $\text{C}_1\text{-C}_6\text{-alkyl}$ ,  $\text{C}_5\text{-C}_8\text{-cycloalkyl}$ , phenyl or phenyl- $\text{C}_1\text{-C}_6\text{-alkyl}$ ;

$\text{R}^2$  is  $\text{C}_1\text{-C}_6\text{-alkyl}$ , phenyl or phenyl- $\text{C}_1\text{-C}_6\text{-alkyl}$ .

Claim 6 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 1, wherein

the apolar aprotic organic solvent completely solubilizes the naphthalene-1,8-dicarboximide of formula II;

is stable to the alkali metal base; and

has a boiling point higher than a reaction temperature.

Claim 7 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 1, wherein the apolar aprotic organic solvent has a boiling point greater than 100°C.

Claim 8 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 1, wherein the apolar aprotic organic solvent is at least one selected from the group consisting of C<sub>8</sub>-C<sub>18</sub>-alkanes, unsubstituted C<sub>7</sub>-C<sub>10</sub>-cycloalkanes, C<sub>6</sub>-C<sub>8</sub>-cycloalkanes which are substituted by from one to three C<sub>1</sub>-C<sub>6</sub>-alkyl groups, polycyclic saturated hydrocarbons having from 10 to 18 carbon atoms, benzene which is substituted by from one to three C<sub>1</sub>-C<sub>6</sub>-alkyl groups or a C<sub>5</sub>-C<sub>8</sub>-cycloalkyl radical and naphthalene which is substituted by from one to four C<sub>1</sub>-C<sub>6</sub>-alkyl groups.

Claim 9 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 8, wherein the apolar aprotic organic solvent is at least one selected from the group consisting of octane, isooctane, nonane, isononane, decane, isodecane, undecane, dodecane, hexadecane and octadecane; cycloheptane, cyclooctane, methylcyclohexane, dimethylcyclohexane, trimethylcyclohexane, ethylcyclohexane, diethylcyclohexane, propylcyclohexane, isopropylcyclohexane, dipropylcyclohexane, butylcyclohexane, tert-butylcyclohexane, methylcycloheptane and methylcyclooctane; toluene, o-, m- and p-xylene, 1,3,5-trimethylbenzene (mesitylene), 1,2,4- and 1,2,3-trimethylbenzene, ethylbenzene,

propylbenzene, isopropylbenzene, butylbenzene, isobutylbenzene, tert-butylbenzene cyclohexylbenzene, naphthalene, decahydronaphthalene, 1- and 2-methylnaphthalene, 1- and 2-ethylnaphthalene and combinations of the aforementioned solvents that are obtainable from the high-boiling, partially or fully hydrogenated fractions of thermal and catalytic cracking operations in petroleum or naphtha processing.

Claim 10 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 9, wherein the apolar aprotic organic solvent is at least one selected from the group consisting of isopropylcyclohexane, dimethylcyclohexane, trimethylcyclohexane, decalin, xylene and mesitylene.

Claim 11 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 1, wherein the alkali metal base comprises a strong inorganic or organic alkali metal base having a low nucleophilic effect.

Claim 12 (new): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 11, wherein the alkali metal base is at least one selected from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, lithium amide, sodium amide, potassium amide, lithium methoxide, sodium methoxide, potassium methoxide, lithium ethoxide, sodium ethoxide, potassium ethoxide, sodium isopropoxide, potassium isopropoxide, sodium tert-butoxide, potassium tert-butoxide, lithium dimethylamide, lithium diethylamide, lithium diisopropylamide, sodium diisopropylamide, triphenylmethyllithium, triphenylmethylsodium and triphenylmethylpotassium.



Claim 13 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 12, wherein the alkali metal base is at least one selected from the group consisting of lithium diisopropylamide, sodium methoxide, sodium tert-butoxide, potassium tert-butoxide, potassium methoxide and potassium hydroxide.

Claim 14 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 11, further comprising adding a nitrogenous heterocycle phase mediator before the dimerizing.

Claim 15 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 14, wherein the nitrogenous heterocycle phase mediator is at least one selected from the group consisting of pyridine, N-methylpiperidine, N-methylpiperidone and N-methylmorpholine.

Claim 16 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 14, wherein a weight % of the added nitrogenous heterocycle phase mediator is in a range from 5-20%.

Claim 17 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 1, wherein the polar solvent is at least one selected from the group consisting of a polar protic inorganic solvent, a polar protic organic solvent and a polar aprotic organic solvent.

Claim 18 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 17, wherein the polar solvent is at least one selected from the

group consisting of water; 5% by weight hydrochloric acid; methanol, ethanol, propanol, isopropanol, butanol, hexanol, formic acid, acetic acid, propionic acid, butyric acid, adipic acid and N-methyl-2-pyrrolidone.

Claim 19 (New): The process for preparing perylene-3,4:9,10-tetracarboxylic diimides according to Claim 1, wherein the oxidizing comprises an oxidizing agent selected from the group consisting of oxygen and hydrogen peroxide.